Amendments to the Drawings:

The attached sheet of drawings in Exhibit A includes previous new Fig. 3A now labeled ("REPLACEMENT SHEET" 4/12) with the legend "(PRIOR ART)."

Attachment: One (1) "REPLACEMENT SHEET"

REMARKS

Responsive to the non-final Office Action mailed October 20, 2006, Applicants have studied the Examiner's comments and the cited art. Claims 46, 48, 52, 56, 57, 75, 76, 77, 78, 89, 90, 92, 95 and 98 have been amended. Claim 91 has been cancelled without prejudice. Claims 99 and 100 have been added. Claims 43, 44, 46, 48-54, 56-61, 64-68, 70-78, 88-90 and 92-100 are pending. Independent claims 93-98 are all the independent claims filed on December 23, 2005 in European Patent Application No. 05112881.7, a division of European Application No. 00906522.8 that corresponds to the present application, except in claims 93 and 94 "riser" was substituted for "casing." In view of the following remarks, Applicants respectfully submit that the application is in condition for allowance.

Drawings - Replacement Sheet

Applicants previously added a new drawing sheet ("New Sheet" 4/12) with Fig. 3A. New Fig. 3A was adapted from Fig. 3 of U.S. Patent No. 5,662,181, which was incorporated by reference in the original specification at paragraph [0013]. Pursuant to MPEP 608.01(q), no new matter has been introduced. The reference numbers have been changed from those used in the '181 patent for uniformity throughout the detailed description of the present application.

In numbered paragraph 12 of the October 20, 2006 Office Action, the Examiner states:

> **Figure 3A should be designated by a legend such as – Prior Art – because only that which is old is illustrated.** See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office Action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office Action. The objection to the drawings will not be held in abeyance.

Applicants submit "REPLACEMENT SHEET" for 4/12, attached as Exhibit A, adding the requested legend "(PRIOR ART)."

Claim Rejections Under 35 U.S.C. § 102

Claim 90 is rejected under 35 U.S.C. § 102(b) as being anticipated by Harrison, U.S. Patent No. 3,638,721 (see Figure 3) or Williams et al. (US 5,662,181) (see Figure 3) with the Examiner stating:

> It is noted that a preamble, an intended use, or an "adapted" phrase is given no patentable weight in an apparatus claim. The system or

housing of Harrison or Williams et al. is capable of being positioning (sic) above a portion of a marine riser as recited.

Amended claim 90 is provided below:

90. (Currently Amended) A system adapted for use with a marine riser, a drilling fluid and a tubular, comprising:

a housing having [~~adapted for positioning above a portion of the marine riser, comprising~~] a housing opening to discharge the drilling fluid [~~received from the marine riser~~],

a valve [~~connector~~] in fluid communication with the housing opening,

an assembly removably positionable within the housing, comprising:

a sealing member, which rotates relative to the housing, and seals with the tubular.

Neither the '721 Harrison patent nor the '181 Williams patent, cited by Applicants and incorporated by reference into the present application, disclose "a housing opening to discharge the drilling fluid" with "a valve in fluid communication with the housing opening."

The Examiner admits in numbered paragraph 6 of the October 20, 2006 Office Action "that the rotating head of Harrison does not include a 'pressure relief mechanism'."

For these reasons and the below discussed reasons, Applicants respectfully request withdrawal of the rejection of amended independent claim 90.

Claims Rejections Under 35 U.S.C. § 103

Reference II/'721 Harrison Patent

Claims 89, 90 and 92-98 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the April 1998 Offshore Drilling with Light Weight Fluids Joint Industry Project Presentation (Reference II on PTO-1449 filed 5/7/2004) ("Reference II") in view of Harrison, U.S. Patent No. 3,638,721 or vice versa, with the Examiner stating:

> Reference II discloses a method of drilling an offshore well with lightweight fluids. On page C-9, it discloses the use of a rotating head at the top of a riser without telescopic joint. **Reference II does not disclose the structure of the rotating head.** Harrison '721 discloses a method and apparatus for drilling an offshore well from a floating vessel as that of Reference II. However, Harrison teaches using a rotating head 22 including a housing 42 that rotatably supports a removable seal member 40 and has an

> opening 60 for returning drilling fluid to the floating vessel through a flexible pipe 35. The rotatable seal member 40 is movable with an inner member 41 to sealably engage a rotatable drill string. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use of a rotating head having a structure as claimed in the Reference II in view of the teaching of Harrison. Alternatively, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a riser in Harrison and locate the rotating head 22 above the riser as claimed in view of the teaching of Reference II.
>
> With respect to claims 89 and 92, the "inner member", "radially outwardly disposed outer member", "bearings", "seal" and "housing" as recited do not distinguish from elements (41), (43), (44a), (40) and (42) respectively of the rotating control head of Harrison. It is noted that the uppermost portion of bearing element 41 is located radially inward of the radially outer portion of retainer plate 43.
>
> As further for claim 89, it is noted none of the bearings 44a that are introduced in line 8 are in contact with the housing 42 as recited in lines 11-12. (bold added)

All of the claims rejected (89, 90 and 92-98) are in independent form. Applicants respectfully traverse the rejections.

The Office Action admits that "Reference II does not disclose the structure of the rotating head," and attempts to fill the gap by combining Reference II with the method and apparatus of Harrison. Even if it was obvious to combine the disclosures of the April 1998 Reference II and Harrison, filed almost thirty (30) years before the April 1998 Reference II, which Applicants do not admit, as shown below, Reference II and Harrison fail to teach or suggest a rotating control head in which a housing receives an inner member and an outer member as in Applicants' claimed subject matter. The present application is a continuation of resulting U.S. Patent No. 6,263,932 where both Reference II and the '721 Harrison patent were cited. In the Notice of Allowability mailed in the application resulting in claims 1-30 of U.S. Patent No. 6,263,982, Examiner Dang stated:

> The following is an examiner's statement of reasons for allowance: **As for claims 1-20**, no prior art discloses or renders obvious a system adapted for use with a structure for drilling in the floor of an ocean using a rotatable tubular and drilling fluid when the structure is floating at a surface of the ocean as claimed and including a housing having an opening to discharge the drilling fluid received from the riser, the housing mounted on the top of the riser and containing a removable bearing assembly having an inner sealing member rotatable with a drill string relative to an outer member and

wherein the floating structure moves independent of the bearing assembly (or the housing) when the drill string (or tubular) is sealed by the seal and the drilling string (or tubular) is rotating. **As for claims 21-25**, no prior art discloses or renders obvious a method for sealing a riser while drilling in the floor of an ocean from a structure floating at a surface of the ocean using a rotatable tubular and pressurized drilling fluid as claimed and including the steps of allowing the housing (on the top of the riser) to move independent of the floating structure and compensating for the relative movement of the structure and the housing during the step of communicating. **As for claims 26-30**, no prior art discloses or renders obvious a method for communicating drilling fluid from a casing fixed relative to an ocean floor to a structure floating at a surface of the ocean while rotating within the casing a tubular as claimed and including the steps of allowing the housing (positioned on a first level of the floating structure) to move independent of the floating structure and moving the fluid from the tubular up the casing to a second level of the floating structure above the housing. (bold added)

89. (Currently Amended) A system adapted for use with a rotatable tubular and a drilling fluid, comprising:

a marine riser for use with the rotatable tubular;

an assembly removably disposed above a portion of the marine riser, the assembly comprising:

an inner member rotatable relative to the marine riser and having a passage through which the rotatable tubular may extend;

a radially outwardly disposed outer member;

a plurality of bearings [~~interposed between~~] contacting the inner member [~~and the radially outwardly disposed outer member~~]; and

a seal moving with the inner member to sealably engage the tubular so that said assembly maintains pressure on the drilling fluid while the tubular rotates; and

a housing, the assembly removably disposed within the housing without any of the bearings being in contact with the housing.

Claim 89 has been amended so that none of the bearings contacting the inner member, including bearings 44, are in contact with the housing. As admitted, Reference II does not disclose the structure of the rotating head and the '721 Harrison patent discloses bearings 44 (contacting inner element 41) being in contact with housing 41.

Therefore, Reference II and Harrison, alone and in combination, fail to teach or suggest all of the elements of Applicants' claimed subject matter. For these reasons, Applicants respectfully request withdrawal of the rejection.

---

90. (Currently Amended) A system adapted for use with a marine riser, a drilling fluid and a tubular, comprising:

a housing having [~~adapted for positioning above a portion of the marine riser, comprising~~] a housing opening to discharge the drilling fluid [~~received from the marine riser~~],

a [~~connector~~] valve in fluid communication with the housing opening,

an assembly removably positionable within the housing, comprising:

a sealing member, which rotates relative to the housing, and seals with the tubular.

As discussed above, the '721 Harrison patent does not disclose a valve in fluid communication with the housing opening, as now claimed in above amended claim 90. Reference II admittedly does not disclose the structure of the rotating head, much less a valve on a housing opening.

Therefore, Reference II and Harrison, alone and in combination, fail to teach or suggest all of the elements of Applicants' claimed subject matter. For these reasons, Applicants respectfully request withdrawal of the rejection.

91. (Cancelled)

92. (Currently Amended) A system adapted for use with a structure for drilling in a floor of an ocean using a riser, a rotatable tubular and a drilling fluid when the structure is floating on a surface of the ocean, the system comprising:

a housing disposed on top of said riser and having a first housing opening to discharge drilling fluid received from said riser;

an assembly adapted for removable positioning [~~above a portion of the riser~~] with said housing and having an inner member, a radially outwardly disposed outer member, and a plurality of bearings, wherein

the inner member is rotatable relative to the riser and has a passage through which the tubular may extend, and

the plurality of bearings [~~are interposed between~~] contacting the inner member without any of the bearings being in contact with the housing [~~and the radially outwardly disposed outer member~~];

a seal moving with the inner member to sealably engage the tubular; and

the floating structure movable independent of the assembly when the tubular is sealed with the seal and the tubular is rotating.

Claim 92 has been amended so that none of the bearings contacting the inner member, including bearings 44, are in contact with the housing. As admitted, Reference II does not disclose the structure of the rotating head and the '721 Harrison patent discloses bearings 44 (contacting inner element 41) being in contact with housing 42.

Therefore, Reference II and Harrison, alone and in combination, fail to teach or suggest all of the elements of Applicants' claimed subject matter. For these reasons, Applicants respectfully request withdrawal of the rejection.

---

93. (Previously Presented) Apparatus for communicating a drilling fluid from a riser having an axis and fixed relative to an ocean floor to a structure floating at a surface of the ocean, comprising:

means for moving the drilling fluid from the riser adjacent a first level of the floating structure to a second level of the floating structure above said first level, the moving means being able to compensate for relative movement between the structure and the riser so as to allow the floating structure to move independent of the riser;

wherein a seal is substantially axially aligned with said riser axis, and

said seal is arranged to seal with the tubular while the tubular is moved along an axial direction.

The Examiner does not provide any arguments how either the Reference II or the '721 Harrison patent disclose "moving the drilling fluid from the riser adjacent a first level of the floating structure to a second level of the floating structure above said first level." While both the Reference II and the '721 Harrison patent disclose floating structures, neither reference disclose the claimed subject matter. See also Examiner Dang's above reasons for allowance of claims 26-30 in US. Patent No. 6,263,982.

Therefore, Reference II and Harrison, alone and in combination, fail to teach or suggest all of the elements of Applicants' claimed subject matter. For these reasons, Applicants respectfully request withdrawal of the rejection.

---

94. (Previously Presented) A method of communicating a drilling fluid from a riser having an axis and fixed relative to an ocean floor to a structure floating at a surface of the ocean, comprising the steps of:

allowing the floating structure to move independent of said riser;

moving the drilling fluid from the riser adjacent a first level of the floating structure to a second level of the floating structure above said first level;

wherein a seal is substantially axially aligned with said riser axis, and

said seal seals with the tubular while the tubular is moved along an axial direction.

The Examiner does not provide any arguments how either the Reference II or the '721 Harrison patent disclose "moving the drilling fluid from the riser adjacent a first level of the floating structure to a second level of the floating structure above said first level." While both the Reference II and the '721 Harrison patent disclose floating structures, neither reference disclose the claimed subject matter. See also Examiner Dang's above reasons for allowance of claims 26-30 in US. Patent No. 6,263,982.

---

95. (Currently Amended) Apparatus for use with a structure for drilling in a floor of an ocean using a rotatable tubular and drilling fluid when the structure is floating at a surface of the ocean, comprising:

a riser;

a housing disposed above a portion of said riser, the housing having a first housing opening;

an assembly having an inner member and removably disposed with said housing, the inner member rotatable relative to the housing and having a passage through which the rotatable tubular may extend;

a seal movable with the inner member to sealably engage the tubular; and

a flexible conduit for communicating the drilling fluid between the first housing opening and the structure whereby the structure is movable independent of the housing when the tubular is rotating.

The above amended claim 95 includes the elements that Examiner Dang stated in his above reasons for allowance of claims 1-20 for U.S. Patent No. 6,263,982. Furthermore, to combine the riser Reference II with the riserless '721 Harrison patent, where these references are separated in time by almost 30 years, is merely using hindsight.

> "In *Graham*, the Court held that the obviousness analysis begins with several basic factual inquiries: '[(1)] the scope and content of the prior art are to be determined; [(2)] differences between the prior art and the claims at issue are to be ascertained; and [(3)] the level of ordinary skill in the pertinent art resolved.' .... After ascertaining these facts, the Court held that the obviousness *vel non* of the invention is then determined 'against th[e] *background*' of the *Graham* factors. ....(emphasis added). Clearly, the Court recognized the importance of guarding against hindsight, as is evident in its discussion of the role of secondary considerations as "serv[ing] to guard against slipping into use of hindsight and to resist the temptation to read into the prior art the teachings of the invention in issue."

Alza Corp. v. Mylan Laboratories, Inc., 464 F.3d 1286, 1289-1290 (Fed. Cir. 9/6/2006).

Therefore, Reference II and Harrison, alone and in combination, fail to teach or suggest all of the elements of Applicants' claimed subject matter. For these reasons, Applicants respectfully request withdrawal of the rejection.

---

96. (Previously Presented) Apparatus for use with a structure for drilling in a floor of an ocean using a rotatable tubular and drilling fluid when the structure is floating at a surface of the ocean, comprising:

a riser;

means for sealing the tubular with respect to the riser; and

a flexible conduit for communicating the drilling fluid between the riser and the structure so as to compensate for relative movement of the structure and the riser when the floating structure is allowed to move independent of the riser.

To combine the riser Reference II with the riserless '721 Harrison patent, where these references are separated in time by almost 30 years, is merely using hindsight.

> "In *Graham*, the Court held that the obviousness analysis begins with several basic factual inquiries: '[(1)] the scope and content of the prior art are to be determined; [(2)] differences between the prior art and the claims at issue are to be ascertained; and [(3)] the level of ordinary skill in the pertinent art resolved.' .... After ascertaining these facts, the Court held that the obviousness *vel non* of the invention is then determined 'against th[e] *background*' of the *Graham* factors. ....(emphasis added). Clearly, the Court recognized the importance of guarding against hindsight, as is evident in its discussion of the role of secondary considerations as "serv[ing] to guard against slipping into use of hindsight and to resist the temptation to read into the prior art the teachings of the invention in issue."

Alza Corp. v. Mylan Laboratories, Inc., 464 F.3d 1286, 1289-1290 (Fed. Cir. 9/6/2006).

Therefore, Reference II and Harrison, alone and in combination, fail to teach or suggest all of the elements of Applicants' claimed subject matter. For these reasons, Applicants respectfully request withdrawal of the rejection.

---

97. (Previously Presented) A method of sealing a riser having an axis while drilling in a floor of an ocean from a structure floating at a surface of the ocean using a rotatable tubular and drilling fluid, comprising the steps of:

sealing the tubular with respect to the riser;

allowing the floating structure to move independent of the riser; and

communicating the drilling fluid between the riser and the structure, using a flexible conduit, so as to compensate for relative movement of the structure and the riser.

The Examiner does not provide any arguments how either the Reference II or the '721 Harrison patent disclose the steps in claim 97. See also Examiner Dang's above reasons for allowance of claims 21-25 in U.S. Patent No. 6,263,982.

To combine the riser Reference II with the riserless '721 Harrison patent, where these references are separated in time by almost 30 years, is merely using hindsight.

> "In *Graham*, the Court held that the obviousness analysis begins with several basic factual inquiries: '[(1)] the scope and content of the prior art are to be determined; [(2)] differences between the prior art and the claims at issue are to be ascertained; and [(3)] the level of ordinary skill in the pertinent art resolved.' .... After ascertaining these facts, the Court held that the obviousness *vel non* of the invention is then determined 'against th[e] *background*' of the *Graham* factors. ....(emphasis added). Clearly, the Court recognized the importance of guarding against hindsight, as is evident in its discussion of the role of secondary considerations as "serv[ing] to guard against slipping into use of hindsight and to resist the temptation to read into the prior art the teachings of the invention in issue."

Alza Corp. v. Mylan Laboratories, Inc., 464 F.3d 1286, 1289-1290 (Fed. Cir. 9/6/2006).

Therefore, Reference II and Harrison, alone and in combination, fail to teach or suggest all of the elements of Applicants' claimed subject matter. For these reasons, Applicants respectfully request withdrawal of the rejection.

---

98. (Currently Amended) Apparatus for use with a structure for drilling in the floor of an ocean using a rotatable tubular and drilling fluid when the structure is floating at a surface of the ocean, comprising:

a riser fixable relative to the floor of the ocean, a portion of said riser extendable between the floor of the ocean and the surface of the ocean, said riser having a top, bottom and an internal diameter;

a housing disposed on the top of said riser, said housing having a first housing opening and an internal diameter, said first housing opening being sized to discharge drilling fluid received from said riser;

a bearing assembly having an inner member and an outer member and being [~~removable~~] removably positioned with said housing, said inner member being rotatable relative to said outer member and having a passage through which the rotatable tubular may extend;

a seal movable with said inner member to sealably engage the tubular;

a [~~quick~~] disconnect member to disconnect said bearing assembly from said housing; wherein

the floating structure is movable independently of said bearing assembly when said tubular is sealed [~~by~~] with said seal and the tubular is rotating.

The above amended claim 98 includes the elements that Examiner Dang stated in his above reasons for allowance of claims 1-20 for U.S. Patent No. 6,263,982.

Furthermore, to combine the riser Reference II with the riserless '721 Harrison patent, where these references are separated in time by almost 30 years, is merely using hindsight.

> "In *Graham*, the Court held that the obviousness analysis begins with several basic factual inquiries: '[(1)] the scope and content of the prior art are to be determined; [(2)] differences between the prior art and the claims at issue are to be ascertained; and [(3)] the level of ordinary skill in the pertinent art resolved.' .... After ascertaining these facts, the Court held that the obviousness *vel non* of the invention is then determined 'against th[e] *background*' of the *Graham* factors. ....(emphasis added). Clearly, the Court recognized the importance of guarding against hindsight, as is evident in its discussion of the role of secondary considerations as

> "serv[ing] to guard against slipping into use of hindsight and to resist the temptation to read into the prior art the teachings of the invention in issue."

Alza Corp. v. Mylan Laboratories, Inc., 464 F.3d 1286, 1289-1290 (Fed. Cir. 9/6/2006).

Reference II/'721 Harrison Patent Further in View of '495 Leach Patent

Claims 43, 44, 48-54, 56-61, 64-68, 70-78, 88 and 91 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reference II in view of '721 Harrison or vice versa as applied to claims 89, 90 and 92-98 above, and further in view of Leach (U.S. Patent 4,813,495) with the Examiner stating:

> Reference II, as modified by Harrison (or vice versa), discloses the invention as claimed except that **the rotating head of Harrison does not include a "pressure relief mechanism".** Leach teaches providing a rotating head with a pressure relief mechanism to permit the drilling mud returns to be dumped in the event of an emergency (column 3, lines 30-35). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the rotating head of Reference II as modified by Harrison or vice versa with a pressure relief mechanism in view of the teaching of Leach for the advantage pointed out above.
>
> As for claims 66, 67, 71, 72 and 90, Leach also teaches providing valves 52, 54 & 58 to the rotating head so that the flow of mud returns can be effectively controlled (column 3, lines 12-16). (bold added)

Only claims 43, 48, 52, 75-78 are in independent form. Claim 91 has been cancelled without prejudice. Applicants respectfully traverse the rejections.

The present Office Action admits that "Reference II does not disclose the structure of the rotating head," and attempts to fill the gap by combining Reference II with the method and apparatus of Harrison. However, the present Office Action then admits that the rotating head of Harrison does *not* include a "pressure relief mechanism." The present Office Action then states "Leach teaches providing a rotating head with a pressure relief mechanism to permit the drilling mud returns to be dumped in the event of an emergency (column 3, lines 30-35)." Column 3, lines 12-35 of the '495 Leach patent is provided below:

> The choke/kill line provides an alternative path for the mud returns and well fluids when valves **52** and **54** are opened and one or more of ram pairs **42, 44** or annular preventer **46** have been closed in response to a kick, or the like. By adjusting the size opening of the choke **50** , back pressure can be put on the well to control the kick to prevent a blowout. Once controlled, the kick can be cycled out of the wellbore to enable the well fluids to be

> analyzed and then, heavier mud can be pumped into the well, as necessary, either through drill string **12** or, alternatively, through high pressure kill line **56** to avoid a reoccurrence of the kick. An optional second line **55** with valve **57** may be connected to the blowout preventer stack at, for example, the second pair of rams **44** to permit fluids to be pumped into the wellbore through kill line **56** without going through choke **50.** Choke/kill line **48** dumps back into mud return line **82** just upstream of one way check valve **58.** Relief valve **59** permits the mud returns to be dumped to the seabed in the event of an emergency. (Although this would be both an expensive and environmentally undesirable solution, there could arise a situation where safety considerations would make it the only viable alternative. (bold numbers in original)

The Examiner first refers to the relief valve **59,** as best shown in FIG. 1 of the '495 Leach patent. The relief valve **59** of the '495 Leach patent is discussed in context of controlling a kick in the well or "in the event of an emergency" at the wellhead. However, the '495 Leach patent is for drilling wells in deep water without a conventional riser including taking the drilling mud returns at the mudline and pumping the mud (sic) to the surface. (Col. 1, lns. 10-14). The "pressure relief mechanism" in claims 43, 48, 52, 76 and 78 and the "rupture disk" in claims 75 and 77 are all attachable or in fluid communication with a housing opening where the housing is disposed above a portion of a marine riser. The '495 Leach patent and the '721 Harrison patent (both for use without a conventional riser) teach away from the teaching Reference II riser. *Monarch Knitting Machinery v. Sulzer Morat GMBH*, 139 F.3d 877, 885 (Fed. Cir. 1998) ("A prior art reference may be considered to teach away when 'a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.' . . . . General skepticism of those in the art – not amounting to teaching away—is also 'relevant and persuasive evidence' of nonobviousness. . . . In effect, 'teaching away' is a more pointed and probative form of skepticism expressed in the prior art. In any case, the presence of either of these indicia gives insight into the questions of obviousness.") Therefore, it would <u>not</u> be obvious to combine these references.

Furthermore, valves **52** and **54** are stated to be open with one or more of ram pairs **42, 44** or annular preventer **46** closed in response to a kick, or the like. As best shown in FIG. 1, one way check valve **58** allows (i) flow up mud return line **82** from either the choke/kill line **48** (after valve **54** is opened) in response to a kick, or the like, or (ii) flow up the annulus **64** via opening **66.**

To combine the riser Reference II with either the riserless '721 Harrison patent, where these references are separated in time by almost 30 years, and/or with the valves of riserless '495 Leach patent is merely using hindsight.

> "In *Graham*, the Court held that the obviousness analysis begins with several basic factual inquiries: '[(1)] the scope and content of

> the prior art are to be determined; [(2)] differences between the prior art and the claims at issue are to be ascertained; and [(3)] the level of ordinary skill in the pertinent art resolved.' .... After ascertaining these facts, the Court held that the obviousness *vel non* of the invention is then determined 'against th[e] *background*' of the *Graham* factors. ....(emphasis added). Clearly, the Court recognized the importance of guarding against hindsight, as is evident in its discussion of the role of secondary considerations as "serv[ing] to guard against slipping into use of hindsight and to resist the temptation to read into the prior art the teachings of the invention in issue."

Alza Corp. v. Mylan Laboratories, Inc., 464 F.3d 1286, 1289-1290 (Fed. Cir. 9/6/2006).

Again, since it would not be obvious to combine the '495 Leach patent with the Reference II, the combination fails.

Reference II/'721 Harrison Patent Further in View of '495 Leach Patent and Further in View of '015 Streich Patent

Claims 44, 73, 75 and 77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reference II in view of '721 Harrison or vice versa as applied to claims 89, 90 and 92-98 above, and further in view of Leach (U.S. Patent 4,813,495) as applied to claims 43,44, 48-54, 56-61, 64-68, 70-78, 88 and 91 above, and further in view of Streich et al (U.S. Patent 5,314,015), with the Examiner stating:

> **The pressure relief mechanism 59 of Leach is not disclosed as a rupture disk.** However, it is well known in the art to use a rupture disk to relieve pressure because of its simplicity as evidenced by Streich et al (see column 17, lines 12-16). To provide Reference II as modified by Harrison or vice versa and Leach with a pressure relief means 59 in the form of a rupture disk would have been obvious in view of the teaching of Streich et al for the advantage pointed out above. (bold added)

Of the claims rejected only below claims 75 and 77 are in independent form:

75. (Currently Amended) A system adapted for use with a drilling fluid and a rotatable tubular, comprising:

a marine riser;

a housing disposed above a portion of the marine riser and having a first housing opening and a second housing opening, both to communicate the drilling fluid received from the marine riser;

an inner member rotatable relative to the housing and having a passage through which the rotatable tubular may extend;

a rupture disk blocking one of the housing openings to block fluid communication from the housing; and

a seal moving with the inner member to sealably engage the rotatable tubular.

77. (Currently Amended) A system adapted for use with a marine riser, a drilling fluid and a tubular, comprising:

a housing adapted for positioning above a portion of the marine riser, comprising:

a housing opening to discharge the drilling fluid received from the marine riser,

an assembly removably positionable [~~within~~] with the housing, comprising:

a sealing member, which rotates relative to the housing, and seals with the tubular; and

a connector, attachable to the housing opening, comprising:

a rupture disk configured to rupture at a predetermined fluid pressure.

The Examiner admits that the pressure relief mechanism **59** of Leach is not disclosed as a rupture disk. The Examiner then relies on the '015 Streich patent for disclosure of a rupture disk. The '015 Streich patent proposes a stage cementer and inflation packer apparatus (See Abstract). After the Streich packer is inflated, pressure is applied which ruptures a rupture disk to open a port to the well annulus above the set packer element for flow of cement. (See FIGS. 1A, 2A, 3A, 4A, 5A, 6A and 7, col. 6, ln. 65 to col. 7, ln. 19, col. 10, lns. 10-16, col. 16, lns. 14-20, col. 17, lns. 11-23, col. 18, ln. 66 to col. 19, ln. 4, and col. 22, lns. 45-58).

None of four (4) references relied on (Reference II, '721 Harrison patent, '495 Leach patent and '015 Streich patent) by the Examiner disclose a rupture disk for a housing opening to control drilling fluid where the housing is disposed above a portion of a marine riser, as claimed in claims 44, 73, 75 and 77.

To combine the riser Reference II with the riserless '721 Harrison patent, where these references are separated in time by almost 30 years, and/or with the riserless '495 Leach patent and/or with the rupture disk in a stage cementer and inflation packer apparatus of the '015 Streich patent is merely using hindsight.

> "In *Graham*, the Court held that the obviousness analysis begins with several basic factual inquiries: '[(1)] the scope and content of

> the prior art are to be determined; [(2)] differences between the prior art and the claims at issue are to be ascertained; and [(3)] the level of ordinary skill in the pertinent art resolved.' .... After ascertaining these facts, the Court held that the obviousness *vel non* of the invention is then determined 'against th[e] *background*' of the *Graham* factors. ....(emphasis added). Clearly, the Court recognized the importance of guarding against hindsight, as is evident in its discussion of the role of secondary considerations as "serv[ing] to guard against slipping into use of hindsight and to resist the temptation to read into the prior art the teachings of the invention in issue."

Alza Corp. v. Mylan Laboratories, Inc., 464 F.3d 1286, 1289-1290 (Fed. Cir. 9/6/2006).

Therefore, since claims 44, 73, 75 and 77 are not obvious in view of the relied on four (4) references their allowance is respectfully requested.

Reference II in View of '181 Williams Patent or '186 Murray Patent

Claims 46, 89, 92 and 98 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reference II in view of Williams et al (U.S. Patent 5,662,181) or Murray et al (U.S. Patent 4,157,186) (sic) with the Examiner stating:

> Reference II discloses a method of drilling an offshore well with lightweight fluids. On page C-9, it discloses the use of a rotating head at the top of a riser without telescopic joint. **Reference II does not disclose the structure of the rotating head.** However, either Williams et al '181 (see figure 3) or Murray et al '186 (see figures 1-7) disclose a rotating head including a housing that rotatably supports a removable assembly that includes an inner member, a radially outwardly disposed outer member, a plurality of bearings interposed between the inner and outer members in order to facilitate removably mounting the bearing assembly in the housing while drilling or servicing the well (column 2, lines 36-42 in Williams et al or column 6, lines 1-4 in Murray et al). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use of (sic) a rotating head having a structure as claimed in the Reference II in view of the teaching of Williams et al for the advantages pointed out above.

All of the rejected independent claims 46, 89, 92 and 98, as now amended, are provided below:

46. (Currently Amended) A system adapted for use with a rotatable tubular and a drilling fluid, comprising:

a marine riser;

an assembly removably disposed above a portion of the marine riser, the assembly comprising:

an inner member having a radially outward surface rotatable relative to the marine riser and the inner member having a passage through which the rotatable tubular may extend;

a radially outwardly disposed outer member;

a plurality of bearings interposed between the radially outward surface of the inner member and the radially outwardly disposed outer member; and

a seal moving with the inner member to sealably engage the rotatable tubular so that said assembly manages pressure on the drilling fluid while the tubular rotates; and

a housing, the assembly removably disposed within the housing.

89. (Currently Amended) A system adapted for use with a rotatable tubular and a drilling fluid, comprising:

a marine riser for use with the rotatable tubular;

an assembly removably disposed above a portion of the marine riser, the assembly comprising:

an inner member rotatable relative to the marine riser and having a passage through which the rotatable tubular may extend;

a radially outwardly disposed outer member;

a plurality of bearings [~~interposed between~~] contacting the inner member [~~and the radially outwardly disposed outer member~~]; and

a seal moving with the inner member to sealably engage the tubular so that said assembly manages pressure on the drilling fluid while the tubular rotates; and

a housing, the assembly removably disposed within the housing without any of the bearings being in contact with the housing.

92. (Currently Amended) A system adapted for use with a structure for drilling in a floor of an ocean using a riser, a rotatable tubular and a drilling fluid when the structure is floating on a surface of the ocean, the system comprising:

a housing disposed on top of said riser and having a first housing opening to discharge drilling fluid received from said riser;

an assembly adapted for removable positioning [~~above a portion of the riser~~] with said housing and having an inner member, a radially outwardly disposed outer member, and a plurality of bearings, wherein

the inner member is rotatable relative to the riser and has a passage through which the tubular may extend, and

the plurality of bearings [~~are interposed between~~] contacting the inner member without any of the bearings being in contact with the housing [~~and the radially outwardly disposed outer member~~];

a seal moving with the inner member to sealably engage the tubular; and

the floating structure movable independent of the assembly when the tubular is sealed with the seal and the tubular is rotating.

98. (Currently Amended) Apparatus for use with a structure for drilling in the floor of an ocean using a rotatable tubular and drilling fluid when the structure is floating at a surface of the ocean, comprising:

a riser fixable relative to the floor of the ocean, a portion of said riser extendable between the floor of the ocean and the surface of the ocean, said riser having a top, bottom and an internal diameter;

a housing disposed on the top of said riser, said housing having a first housing opening and an internal diameter, said first housing opening being sized to discharge drilling fluid received from said riser;

a bearing assembly having an inner member and an outer member and being [~~removable~~] removably positioned with said housing, said inner member being rotatable relative to said outer member and having a passage through which the rotatable tubular may extend;

a seal movable with said inner member to sealably engage the tubular;

a [~~quick~~] disconnect member to disconnect said bearing assembly from said housing; wherein

the floating structure is movable independently of said bearing assembly when said tubular is sealed [~~by~~] with said seal and the tubular is rotating.

Amended Claims 46 and 89

U.S. Patent No. 4,157,186 to Murray et al. proposes that to continue drilling after penetrating a high pressure formation, it is necessary to seal the top of the well casing respective to the drill string. A rotating blowout preventer is proposed in the '186 Murray patent to sealingly engage the drill string to isolate the annulus formed between the borehole and the drill sting from ambient. (Murray, col. 1, lns. 11-20). However, the Murray rotating blowout preventer teaches that the drilling mud in the annulus flows from a lateral outlet flow passageway (diverter) in the housing of the rotating blowout preventer (Murray, col. 6, lns, 30-35) – not to manage pressure of the fluid while the tubular is drilling. (See also '181 Williams patent, col. 3, lns. 45-50).

Amended independent claims 46 and 89 now include the limitation of "the assembly manages pressure on the drilling fluid while the tubular rotates."

There are no statements in any of the three relied on references to use a rotating control device to allow the operator to rotate the tubular to keep drilling while managing the pressure on the drilling fluid. Because the '186 Murray patent and the '181 Williams patent, instead teach away, as discussed above, claims 46 and 89 are allowable. *Monarch Knitting Machinery v. Sulzer Morat GMBH*, 139 F.3d 877, 885 (Fed. Cir. 1998) ("A prior art reference may be considered to teach away when 'a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.' . . . . General skepticism of those in the art – not amounting to teaching away—is also 'relevant and persuasive evidence' of nonobviousness. . . . In effect, 'teaching away' is a more pointed and probative form of

skepticism expressed in the prior art. In any case, the presence of either of these indicia gives insight into the questions of obviousness.")

The teachings of the '181 Williams patent and the '186 Murray patent, simply divert the drilling fluid from the rotating control device. See also '721 Harrison patent, col. 2, lns 40-41 and Figs. 2 and 3, reference 35. The use of a rotating control device or blowout preventer, as claimed in the present invention, allows the operator to keep drilling while managing the pressure of the drilling fluid.

New claims 99 and 100 depend directly from claims 46 and 89, respectively. Since claims 46 and 89 are allowable, claims 99 and 100 are allowable.

Amended Claims 92 and 98

The present application is a continuation of U.S. Patent No. 6,263,932 where Reference II, the '181 Williams patent and the '186 Murray patent were cited. In the Notice of Allowability mailed in the application resulting in claims 1-30 of U.S. Patent No. 6,263,982, Examiner Dang stated:

> The following is an examiner's statement of reasons for allowance: As for **claims 1-20**, no prior art discloses or renders obvious a system adapted for use with a structure for drilling in the floor of an ocean using a rotatable tubular and drilling fluid when the structure is floating at a surface of the ocean as claimed and including a housing having an opening to discharge the drilling fluid received from the riser, the housing mounted on the top of the riser and containing a removable bearing assembly having an inner sealing member rotatable with a drill string relative to an outer member and wherein the floating structure moves independent of the bearing assembly (or the housing) when the drill string (or tubular) is sealed by the seal and the drilling string (or tubular) is rotating.

Amended claims 92 and 98 now include all the elements that Examiner Dang listed in his reasons for allowance where all the references in this rejection were considered. Furthermore, to combine the riser Reference II with the riserless '181 Williams patent, and/or with the riserless '186 Murray patent is merely using hindsight.

> "In *Graham*, the Court held that the obviousness analysis begins with several basic factual inquiries: '[(1)] the scope and content of the prior art are to be determined; [(2)] differences between the prior art and the claims at issue are to be ascertained; and [(3)] the level of ordinary skill in the pertinent art resolved.' .... After ascertaining these facts, the Court held that the obviousness *vel non* of the invention is then determined 'against th[e] *background*'

> of the *Graham* factors. ....(emphasis added). Clearly, the Court recognized the importance of guarding against hindsight, as is evident in its discussion of the role of secondary considerations as "serv[ing] to guard against slipping into use of hindsight and to resist the temptation to read into the prior art the teachings of the invention in issue."

Alza Corp. v. Mylan Laboratories, Inc., 464 F.3d 1286, 1289-1290 (Fed. Cir. 9/6/2006).

Therefore, amended claims 92 and 98 are not obvious in view of the relied on references and allowance is requested.

Claims Rejections – Nonstatutory Obviousness-Type Double Patenting

Claims 43, 44, 48-54, 56-61, 64-68, 70-78 and 88 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-34 of U.S. Patent No. 6,913,092 or claims 1-30 of U.S. Patent No. 6,263,982 in view of Leach (U.S. Patent No. 4,813,495) with the Examiner stating:.

> Leach teaches providing a rotating head with a pressure relief mechanism to permit returns to be dumped in the event of an emergency (column 3, lines 30-35). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the invention as defined by claims 1-34 of U.S. Patent No. 6,913,092 or claims 1-30 of U.S. Patent No. 6,263,982 with a pressure relief mechanism in view of the teaching of Leach for the advantage pointed out above.

Also, claims 89-98 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-34 of U.S. Patent No. 6, 913, 092 or claims 1-30 of U.S. Patent No. 6,263,982 with the Examiner stating:

> Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 89-98 are broader and therefore read on the invention as defined by claims 1-34 of U.S. Patent No. 6,913,092 or claims 1-30 of U.S. Patent No. 6,263,982.

In response to this rejection, Applicant maintains, as discussed above, that it would not be obvious to combine the '495 Leach patent (without a conventional riser) with either of the riser patents (U.S. Patent Nos. 6,263,982 and 6,913,092). However, as suggested by the Examiner, terminal disclaimers are submitted to overcome rejection of claims 89-98.

EXTENSION OF TIME

A three (3) month extension of time is filed concurrently herewith.

FIFTH SUPPLEMENTAL IDS

A Fifth Supplemental IDS was mailed on January 9, 2007. Consideration of the cited references and initialing of each reference is respectfully requested.

SIXTH SUPPLEMENTAL IDS

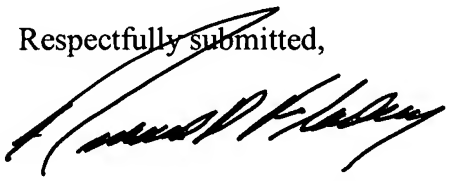
A Sixth Supplemental IDS is filed concurrently herewith. Consideration of the cited references and initialing of each reference is respectfully requested.

CONCLUSION

Applicants respectfully submit that all issues and rejections have been adequately addressed, that all claims are allowable, and that the case should be advanced to issuance.

If the Examiner has any questions or wishes to discuss the claims, Applicants encourage the Examiner to call the undersigned at the telephone number indicated below.

Respectfully submitted,



Richard D. Fladung, Reg. No. 30,834

Date: April 19, 2007

STRASBURGER & PRICE, LLP
1401 McKinney St, Suite 2200
Houston, Texas 77010-4035
Telephone: (713) 951-5600
Facsimile: (713) 951-5660